



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBW6305G19231-3G
Job Sheet 172410



Part No: RBW6305G19231-3G

Job Qty: 3 ea

Part Name: Puller Rotor Brake Adapter Flange Remover



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/16/18

Job Tracking No:

Due Date: 4/16/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBW6305G19231-3G Rev 2 IPP Rev A 18.02.15 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	3 pcs		4/16/18	0.00	0.00	Purchasing		APR 19/04/26
110	Packaging	3 pcs		4/16/18	0.00	0.00	Packaging2		APR 19/04/26
120	QC	3 pcs		4/16/18	0.00	0.00	QC6		38
130	Packaging	3 pcs		4/16/18	0.00	0.00	Packaging3		APR 27 2018
140	QC21-FG	3 Ea		4/16/18	0.00	0.00	QC21		GA115

Part Op 100 - Issue PO to ARROW TECH MACHINE WORKS P/O: 039084 MANUFACTURE RBW6305G19231-3G AS PER
Descriptions: DWG -Certificate of conformity is required

FEB 22 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RBW6305G19231-3GP	Puller Rotor Brake Adapter Flange Remover	3 (1 ea)	100-Purchasing	5065561

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	RBW6305G19231-3GP	3	0	0

Part Specifications

Specifications could not be found.

Plex 2/16/18 9:47 AM Dart.lajeunesse.marie

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

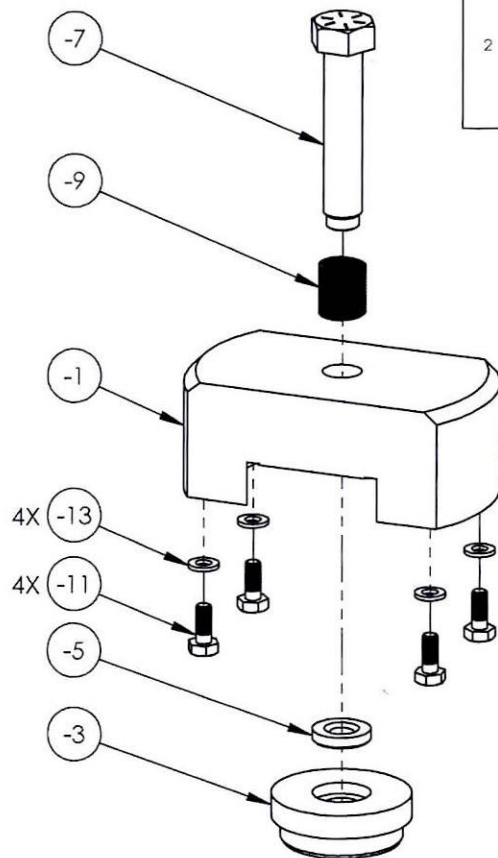
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS							
	Rework	☐	Skid-tube	☐	Cross tube	☐	Water Jet	☐	Engineering	☐
	Scrap	☐	Machining	☐	Small Fab	☐	Prod. Eng. Coord.	☐	Quality	☐
	Use-as-is	☐	Thermoforming	☐	Finishing	☐	Rec/Store/Packaging	☐	Other	☐
	Suspected Unapproved	☐	Large Fab	☐	Composite	☐	Supplier	☐		

Date : _____ Step #: _____ QTY Effective : _____ MRB (QS1042) Approval _____

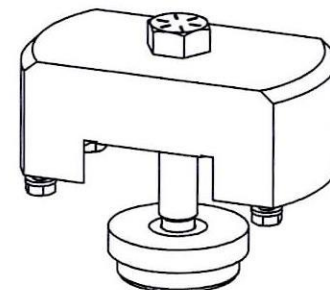
Descr Job No: 172410 Mtg Date: 04/26/18	Change No: Operation: Revision: Serial No/Batch: S065502 PART NO: RBW6305G19231-3G Puller Rotor Brake Adapter Flange Remover 	Completed By
		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re ☐ Opera ☐ Offset ☐ Suppli ☐ Trainii ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Loss/Surge program ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		Container No: S065502  Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K6A 1K7 CANADA TEL: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com
OTHER : _____		

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		CH'D -1, -7 & -11 BOM INFO PER S.E. & R.W. CH'D -1 ENGRAVE NOTES PER R.W., ADDED MISSING DIM & DELETED MED. KNURL PER G.E. CH'D P.F. FROM -85 & ADDED TOLERANCE TO Ø.948 DIM. PER G.E. CH'D -5 FINISH PER R.W., ADDED TOLERANCE TO Ø.948 DIM PER G.E. CH'D -7 SPHERICAL RADIUS FROM -469 PER G.E.	5/9/2011	RJC	RW
1A		CH'D TOOL NAME WAS ROTOR BRAKE ADAPTER FLANGE REMOVER IS PULLER, ROTOR BRAKE ADAPTER FLANGE REMOVER TO MATCH PARTS MANUAL.	11/4/2013	RJC	RW
2	17-0098	UPDATED TO NEW STANDARD, ADDED OEM REF NOTE. -1 CH'D DIMS WAS 2.747 IS 2.75, WAS 1.968 IS 1.97, DELETED DIMS 2X 1.957, 2X 3.919. -3 CORRECTED GD&T, CH'D DIMS WAS .062 IS .06, WAS Ø.948+ .000- .001 P.F. -5 IS Ø.9470- .9478 (P.F. -5), WAS .787 IS .79. -5 CH'D MAT'L WAS 4140 IS 4140/4142. CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416F TYPE II CLASS II IS ZINC PLATE ASTM B633 TYPE I SC2. CH'D DIMS WAS Ø.948+ .001- .000 P.F. -3 IS Ø.9484- .9489 (P.F. -3), WAS .054 IS .05, WAS .190 IS .19. -7 CH'D B/O REF WAS 5/8-18 X 3-1/4 (MCMASTER-CARR #92865A442) IS 5/8-18 X 3-1/2, GRADE 8, UNFINISHED (FASTENAL #0168164). CH'D DIMS WAS 3.142 IS 3.14, WAS .260 IS .26, WAS 5/8-18 UNF IS (5/8-18 UNF - 2A). CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416F TYPE II CLASS II IS ZINC PLATE ASTM B633 TYPE I SC2. -9 CH'D B/O REF WAS 5/8-18 X 1-1/8 IS 5/8-18 X .938. -13 CH'D MAT'L WAS 5052 IS ALUMINUM.	4/24/2017	DPD	JAG



NOTE:

1. PART OF KIT RBW6305G01531-3G, BOX TWO RBW6305G19731-3G.
2. REF. AGUSTA T/N: 3G6305G19231.

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			-1	1	BODY	6061		2
			-3	1	BOTTOM	6061		3
			-5	1	CHAMFERED WASHER	4140/4142		4
			-7	1	HEX HEAD CAP SCREW	STEEL GRADE 8	5/8-18 X 3-1/2, GRADE 8, UNFINISHED (FASTENAL #0168164) MODIFIED	5
		B/O	-9	1	HELICOIL	S.S.	5/8-18 X .938 (MCMASTER-CARR #91732A238)	1
		B/O	-11	4	HEX HEAD CAP SCREWS	STEEL	1/4-28 X 21/32 (AIRCRAFT SPRUCE #AN4-5A)	1
		B/O	-13	4	FLAT WASHER	ALUMINUM	Ø1/4 (MCMASTER-CARR #93286A044)	1

DART AEROSPACE																											
TITLE PULLER, ROTOR BRAKE ADAPTER FLANGE REMOVER																											
DWG NO. RBW6305G19231-3G	REV 2																										
<table border="1"> <tr> <td>MAT'L</td> <td>UNLESS OTHERWISE SPECIFIED</td> </tr> <tr> <td>HEAT TREAT</td> <td>DIMENSIONS ARE IN INCHES</td> </tr> <tr> <td>FINISH</td> <td>.XXX ± .005 FRACTIONS ± 1/8</td> </tr> <tr> <td></td> <td>.XX ± .01 ANGLES ± 5°</td> </tr> <tr> <td></td> <td>.X ± .1 SURFACES = 125</td> </tr> <tr> <td>SPEC</td> <td>1. BREAK ALL SHARP EDGES .015 x 45° OR .015R</td> </tr> <tr> <td>DRAWN BY: CLOUGH</td> <td>2. DIMENSIONAL LIMITS APPLY AFTER PLATING</td> </tr> <tr> <td>CHECKED: RJC 04/24/2017</td> <td>3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009</td> </tr> <tr> <td>OPPS APPR: AA 05/10/2017</td> <td>USED ON MODEL</td> </tr> <tr> <td>QA APPR: JL 05/10/2017</td> <td>AW139</td> </tr> <tr> <td>APPROVED: JAG 05/18/2017</td> <td></td> </tr> <tr> <td>SCALE 1:3</td> <td>DATE 2/4/2011</td> </tr> <tr> <td colspan="2">SHEET 1 OF 5</td> </tr> </table>		MAT'L	UNLESS OTHERWISE SPECIFIED	HEAT TREAT	DIMENSIONS ARE IN INCHES	FINISH	.XXX ± .005 FRACTIONS ± 1/8		.XX ± .01 ANGLES ± 5°		.X ± .1 SURFACES = 125	SPEC	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	DRAWN BY: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING	CHECKED: RJC 04/24/2017	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	OPPS APPR: AA 05/10/2017	USED ON MODEL	QA APPR: JL 05/10/2017	AW139	APPROVED: JAG 05/18/2017		SCALE 1:3	DATE 2/4/2011	SHEET 1 OF 5	
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APPROVED: JAG 05/18/2017																											
SCALE 1:3	DATE 2/4/2011																										
SHEET 1 OF 5																											

DQA? _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____			
Misidentified ☐		Past Due ☐					



Dart Aerospace Ltd.
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Canada

Tel (613) 632-5200

PURCHASE ORDER PO039084

Items											
Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
				3G Rev. 1							
Line Item Note job# 172416											
15	RBW6305G14631-3GP			Tail Rotor Drive Quill Seal Housing Remover As Per Dwg RBW6305G14631-3G Rev. 1A	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$1,205.32/Ea	\$3,615.96
Line Item Note job# 172415											
16	RBW6305G14831-3GP			Tail Rotor Drive Quill Lip Seal Remover As Per Dwg RBW6305G14831-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$922.80/Ea	\$2,768.40
Line Item Note job# 172414											
17	RBW6305G16031-3GP			Drive Quill Seal Housing Remover As Per Dwg RBW6305G16031-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$981.65/Ea	\$2,944.95
Line Item Note job# 172413											
18	RBW6305G18331-3GP			Ecs Drill Quill Lip Seal Remover As Per Dwg RBW6305G18331-3G Rev. B	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$534.40/Ea	\$1,603.20
Line Item Note job# 172412											
19	RBW6305G18631-3GP			Ecs Drive Quill Housing Remover As Per Dwg RBW6305G18631-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$1,043.33/Ea	\$3,129.99
Line Item Note job# 172411											
20	RBW6305G19231-3GP			Puller Rotor Brake Adapter Flange Remover As Per Dwg RBW6305G19231-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$740.19/Ea	\$2,220.57
Line Item Note job# 172410											
21	RBW6305G19151-3GP			Guide Fan Drive Quill Seal Housing Installer As Per Dwg RBW6305G19151-3G Rev. B	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$132.32/Ea	\$396.96
Line Item Note job# 172402											
22	RBW6305G16231-3G-1P			Handle As Per Dwg RBW6305G16231-3G-1 Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$368.38/Ea	\$1,105.14



ARROW TECH MACHINE WORKS

Certificate of Conformance

Your Purchase Order No039084: Dated: 4/24/2018

Our Order / Job No:12AWT Order Qty: 3

Part Name: Puller. Rotor Brake Adapter Flange Remover

Part Number: RBW6305G19231-3G

Lot Size:N/A Ship Date: 04/24/2018

We certify that these parts shipped to you are of domestic or international manufacture and conform to all requirements of the Purchase Order. These parts have been manufactured and inspected in accordance with all required specifications, instructions and drawings. Any applicable specifications are listed below:

Drawing Number: RBW6305G19231-3G Rev: 2

Material Size and Type: -1/6061 ALUM; -3/6061 ALUM.; -5/ 4140

Material Specifications: ALUM.- ASTM B221; STEEL- ASTM A108, ASTM A29

Heat Treatment: N/A

Plating/Finish: CLEAR ANODIZE: MIL-A-8625F, TYPE II, CLASS I; ZINC PLATE: ASTM B633 TYPE I SC 2

Mercury Contamination: The material used to process this order has not come in contact with mercury or mercury bearing instruments.

Date: 4/24/18

Signed: Henri M. Falt

DAS
38
9-89

APR 26 2018

PHGE Machine Works LLC dba Arrow Tech Machine Works
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Main: (541) 780-6938 | Fax: (458) 215-4938
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